

Lesson Plan & Work-done Diary for AY: 2024-25, EVEN Semester

Course with Code: Microcontroller and Embedded Systems – BCO601				Faculty: Dr. Hussana Johar R B				Semester & Section: 6 th "A"	
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation	
MODULE-1									
1	10-02-2025	Introduction to the course	Chalk & Board	1					
2	12-02-2025	Microprocessors versus Microcontrollers, ARM Embedded Systems: The RISC design Philosophy	Chalk & Board, PPT	2					
3	13-02-2025	The ARM Design Philosophy	Chalk & Board, PPT	3					
4	17-02-2025	Embedded System Hardware, Embedded System Software.	Chalk & Board, PPT	4					
5	19-02-2025	ARM Processor Fundamentals: Registers	Chalk & Board, PPT	5					
6	20-02-2025	Current Program Status Register	Chalk & Board, PPT	6					
7	24-02-2025	Pipeline	Chalk & Board, PPT	7					
8	25-02-2025	Exceptions, Interrupts, and the Vector Table	Chalk & Board, PPT	8					
9	27-02-2025	Core Extensions	Chalk & Board, PPT	9					
10	27-02-2025	Revision & Quiz-1	PPT, MS Forms	10					

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MODULE-2									
1	03-03-2025	Introduction to the ARM Instruction Set: Data Processing Instructions,	Chalk & Board, PPT	1					
2	05-03-2025	Data Processing Instructions	Chalk & Board, PPT	2					
3	06-03-2025	Programme Instructions	Chalk & Board, PPT	3					
4	10-03-2025	Software Interrupt Instructions	Chalk & Board, PPT	4					
5	12-03-2025	Program Status Register Instructions	Chalk & Board, PPT	5					
6	13-03-2025	Coprocessor Instructions, Loading Constants	Chalk & Board, PPT	6					
7	17-03-2025	ARM programming using Assembly language: Writing Assembly code,	Chalk & Board, PPT	7					
8	19-03-2025	Profiling and cycle counting, instruction scheduling, Register Allocation,	Chalk & Board, PPT	8					
9	20-03-2025	Conditional Execution, Looping Constructs.	Chalk & Board, PPT	9					
10	20-03-2025	Revision, Quiz-2	PPT, MS Forms	10					

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MODULE-3									
1	24-03-2025	Embedded System Components: Embedded Vs General computing system, History of embedded Systems	Chalk & Board, PPT	1					
2	24-03-2025	Classification of Embedded systems, Major applications areas of embedded systems	Chalk & Board, PPT	2					
3	25-03-2025	Purpose of embedded systems.	Chalk & Board, PPT	3					
4	25-03-2025	Core of an Embedded System including all types of processor/controller,	Chalk & Board, PPT	4					
5	02-04-2025	Memory	Chalk & Board, PPT	5					
6	02-04-2025	Sensors, Actuators, LED, 7 segment LED display	Chalk & Board, PPT	6					
7	03-04-2025	stepper motor, Keyboard, Push button switch	Chalk & Board, PPT	7					
8	03-04-2025	Revision, Quiz-3	PPT, MS Forms	8					

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MODULE-4									
1	07-04-2025	Embedded System Design Concepts: Characteristics and Quality Attributes of Embedded Systems,	Chalk & Board, PPT	1					
2	09-04-2025	Operational quality attributes,	Chalk & Board, PPT	2					
3	15-04-2025	Non-operational quality attributes,	Chalk & Board, PPT	3					
4	16-04-2025	Embedded Systems-Application and Domain specific,	Chalk & Board, PPT	4					
5	17-04-2025	Embedded Systems-Application and Domain specific,	Chalk & Board, PPT	5					
6	23-04-2025	Hardware Software Co-Design and Program Modelling.	Chalk & Board, PPT	6					
7	24-04-2025	Hardware Software Co-Design and Program Modelling.	Chalk & Board, PPT	7					
8	24-04-2025	Revision, Quiz-4	PPT, MS Forms	8					

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MODULE-5									
1	05-05-2025	RTOS and IDE for Embedded System Design: Operating System basics	Chalk & Board, PPT	1					
2	07-05-2025	Types of operating systems	Chalk & Board, PPT	2					
3	08-05-2025	Task, process and threads (Only POSIX Threads with an example program)	Chalk & Board, PPT	3					
4	12-05-2025	Thread preemption, Multiprocessing and Multitasking	Chalk & Board, PPT	4					
5	14-05-2025	Task Communication (without any program)	Chalk & Board, PPT	5					
6	15-05-2025	Task synchronization issues – Racing and Deadlock	Chalk & Board, PPT	6					
7	19-05-2025	Concept of Binary and counting semaphores (Mutex example without any program), How to choose an RTOS	Chalk & Board, PPT	7					
8	22-05-2025	Integration and testing of Embedded hardware and firmware	Chalk & Board, PPT	8					
9	26-05-2025	Revision, Quiz-4	PPT, MS Forms	9					

	Activity	Planned	Actual	Remarks
1	Theory Classes			
2	Assignments/ Quizzes/ Self-study			
3	Tutorials/ Extra classes			
4	Internal Assessments			
5	ICT based Teaching (% of usage in Curriculum)			
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	